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Varietal Description of Topper Yellow Field Pea

Origin and breeding

Topper, tested as MP 954, was developed at the Agriculture Canada Research Station, Morden, Manitoba. This variety was derived from the cross Flavanda x PI 162567. Flavanda is a large seeded European variety and PI 162567, an introduction from Argentina, was selected as a parent for its high yield and early maturity. Topper orginated from a single plant selection made in the F_5 generation from a bulk line showing high yield, early maturity and large seed size. Seed of this line was subsequently increased for several generations. Breeder seed was bulked in 1987.

Varietal characteristics

Plant characteristics

Vines: indeterminate; medium length, shorter than those of Century or Titan; straight, 3-4 mm thick internodes

Leaves: medium size; medium green; 2-3 pairs of leaflets; no serration on leaflets; stipules slightly serrated at the base

Flowers: white

Pods: medium-large, approximately 60 mm x 14 mm; straight with blunt ends; light green; 5-6 seeds per pod

Maturity: slighty earlier than Century, Titan or Trapper

Disease reaction: susceptible to Ascochyta blight (*Mycosphaerella pinodes*) and powdery mildew (*Erysiphe polygoni*).

Seed characteristics

Shape: round; larger than Century or Titan

Cotyledon: yellow

Texture: smooth

Cooking quality: good, similar to that of Century

Protein content: slightly lower than that of Century or Trapper

Performance

Topper is a good yielding variety, particularly in irrigated tests. This variety has good cooking quality and large seed size. However, this variety has slightly lower protein than the check varieties and is susceptible to powdery mildew and Ascochyta blight.

Maintenance of breeder seed

Agriculture Canada Research Station, Morden

Canadian distributor

SeCan Association

Recommended by

Prairie Registration Recommending Committee on Grain

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Table 1. Agronomic Characteristics of Topper and check varieties, co-operative field pea trials, 1985-1988*

No. of Characteristic	Tests	Topper	Century	Express	Tipu	Titan	Trapper
Yield (kg/ha)							
Non-irrigated	31	2596	2273	2602	2338	2492	2266
Irrigated	6	3404	2985	3317	2539	2970	3200
Days to Maturity	21	98	101	95	99	101	100
1000 seed weight (g)	31	284	233	232	223	257	147
Vine length (cm)	23	109	115	63	111	115	103
Protein (%)	29	21.0	23.4	23.0	22.3	22.5	24
Cooking quality**							
Color	26	2.8	2.7	2.8	2.7	2.9	2.8
Granulation	26	2.5	2.6	2.9	2.8	3.2	2.4
Viscosity	26	14.6	15.6	15.5	15.8	17.6	17.1
Disease reaction***							
Ascochyta blight	4	8.0	8.2	7.8	7.0	7.1	7.4
Powdery mildew	4	8.15	7.39	8.94	7.83	7.48	7.29

*See Table 3 for locations.

**Color and granulation evaluated on 1-5 scale where 1 = very good 5 = poor, viscosity 1-24 scale where 1 = high and 24 = low.

***FAO scale 1-9 where 1 = no infection and 9 - severe infection.

Table 2. Yield performance (kg/ha) of Topper and check varieties, co-operative field pea trials, 1985-1988*

Variety	1985	1986	1987	1988
Topper	2499*	2470	2593	2807
	3439	3463	3367	3346
Century	2170	2142	2251	2472
	3376	3001	3194	2670
Express	2419	2510	2458	3039
	3772	3411	3012	3149
Tipu	2386	2219	2214	2519
	2823	2357	2434	2633
Titan	2697	2358	2345	2556
	3160	2974	3018	2847
Trapper	2091	2124	2241	2548
	3194	3380	3760	2743
No. of tests	8	4	11	8
	1	2	1	2

*See Table 3 for locations.

**Upper figures of a pair are from non-irrigated tests and lower figures are from irrigated tests.

Table 3. Yield Performance (kg/ha) of Topper and check varieties from individual stations, co-operative field pea tests, 1985-1988

Location	Topper	Century	Express	Tipu	Titan	Trapper	No. of tests
Brandon	2796	2653	2612	2304	2611	2521	(2)
Calmar	4984	3841	5706	4407	4224	3888	(1)
Camrose	2160	1968	3032	2000	2015	2038	(1)
Carrot River	1719	1401	2063	1473	1599	1505	(2)
Ft. Vermilion	3139	2426	2642	2453	2259	2802	(1)
Indian Head	3555	2740	3352	2759	3111	3236	(2)
Melfort	2154	2092	2465	2180	2398	2170	(2)
Morden	1875	1707	1915	1812	1878	1773	(4)
Portage la Prairie	2266	1847	2035	2055	2111	1712	(4)
Regina	2287	1984	2045	1902	2179	1742	(3)
Saskatoon	2569	2139	2021	2252	2606	1461	(1)
Scott	2311	1883	2451	2074	1967	1809	(1)
Stettler	3426	3233	3479	3147	3257	3389	(1)
Vermilion	4408	3625	5280	3681	3827	3588	(1)
Western Mean	2572	2194	2597	2255	2388	2193	(26)
La Pocatiere	3315	3012	3535	3142	3390	2824	(2)
New Liskeard	2601	2461	2358	2524	2798	2534	(3)
Eastern Mean	2887	2681	2829	2771	3035	2650	(5)
Bow Island	3963	3785	3965	2791	3101	3975	(1)
Brooks	3198	2824	3184	2459	2973	3068	(4)
Outlook	3667	2830	3203	2611	2830	2951	(1)
Irrigated Mean	3404	2985	3317	2540	2971	3200	(6)
Overall Mean*	2596	2273	2602	2338	2492	2266	(31)

*Overall mean does not include irrigated locations.

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